

REMARKS/ARGUMENTS

Claims 1 and 3-15 are pending in the application. In the Final Office Action mailed October 1, 2004, all of the pending claims were rejected. In this response to the Final Office Action, no claim amendments have been made.

I. Claim Rejections under 35 U.S.C. § 102(e)

Claims 12 and 13 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Publication 2004/0063162 (“Dunlay”). To anticipate a claim under 35 U.S.C. § 102(e), a reference must teach every element of that claim. MPEP § 2131. Dunlay does not anticipate claims 12 and 13 because Dunlay does not teach the limitation of “a value indicative of a driving force.” The term “driving force”, within the context of the pending application, refers to a force that initiates fluid movement in channels within the microfluidic device. See e.g. Application pg. 10 lines 9-14; pg. 13 lines 12-15. This meaning of “driving force” is consistent with the term’s standard meaning within the field of fluid mechanics. It is important to note that the “microfluidic devices” referred to in claim 1 contain a network of microscale channels within their interior, and that the channels are accessible through reservoirs (or wells, since those terms are used interchangeably in the Application) disposed at the termini of the channels. See Application pg. 8 lines 19-20. Therefore, when the claim 12 prescribes that the claimed “computer program product” specify the value of a driving force to be applied to a well, and the duration for which that driving force will be applied to the well, the claim is essentially stating that the computer program is controlling fluid flow through the channels in the microfluidic device. See Application pg. line 24 – pg. 9 line 4.

Within the context of the intended meaning of claim 12, it becomes clear why Dunlay cannot anticipate that claim. The systems in Dunlay appear to be designed to interface with microplates with non-interconnected wells. See paragraph [0082] and Figure 4 of Dunlay. Since there are no internal channels in a microplate interconnecting the wells, Dunlay could not possibly disclose a “computer program product” that controls fluid flow through such channels. Please note that the portions of Dunlay cited in the Final Office Action appear to discuss the code that controls the movement of the entire microplate so that a camera or fluorescence detector can

monitor a desired portion of the microplate, or so that fluid can be added to particular wells in the microplate from an external source. Those processes bear no relation to flow control within a microfluidic device. Since Dunlay does not anticipate claim 12, and since claim 13 contains all of the limitations of claim 12, neither claim 12 nor claim 13 could be anticipated by Dunlay.

II. Claim Rejections under 35 U.S.C. § 103(a)

Claims 1, 3-11, 14, and 15 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over the combination of Dunlay and U.S. Patent No. 6,500,323 (“Chow”). These obviousness rejections appear to be based on the following logic: Dunlay discloses the concept of specifying “a value indicative of a driving force”, Dunlay does not disclose driving a fluid along a channel in a microfluidic device, Chow teaches driving a fluid along a channel in a microfluidic device, it would be obvious to combine the teachings of Dunlay and Chow. As Applicants pointed in their arguments against the claim rejections under 35 U.S.C. § 102(e), Dunlay does not disclose, or even suggest, the concept of a “driving force” as that term is used in the pending Application. Perhaps the strongest indication that Dunlay does not disclose or suggest a “driving force” that drives flow along a channel is that the microplates disclosed in Dunlay do not have channels. Since nothing in Dunlay suggests the concept of applying a driving force to drive fluid flow along a channel within a microfluidic device, the logic underlying the obviousness rejections of claims 1, 3-11, 14 and 15 breaks down. Therefore Applicants believe that claims 1, 3-11, 14 and 15 are patentable over the combination of Dunlay and Chow.

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Parce et al.

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Conclusion

For the foregoing reasons, Applicant believes all the pending claims are in condition for allowance and should be passed to issue. If the Examiner feels that a telephone conference would in any way expedite the prosecution of the application, please do not hesitate to call the undersigned attorney.

Respectfully submitted,



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Signed: 